



Water & Sewer Fund and CIP

Proposed FY 2017 Rates

April 21, 2016



Outline

- Capital Improvement Program
- Rate Objectives & Strategies
- Key Issues
- Customer Consumption
- Proposed Rates
- Capital Facility Fee Increases



Capital Improvement Program

DURHAM



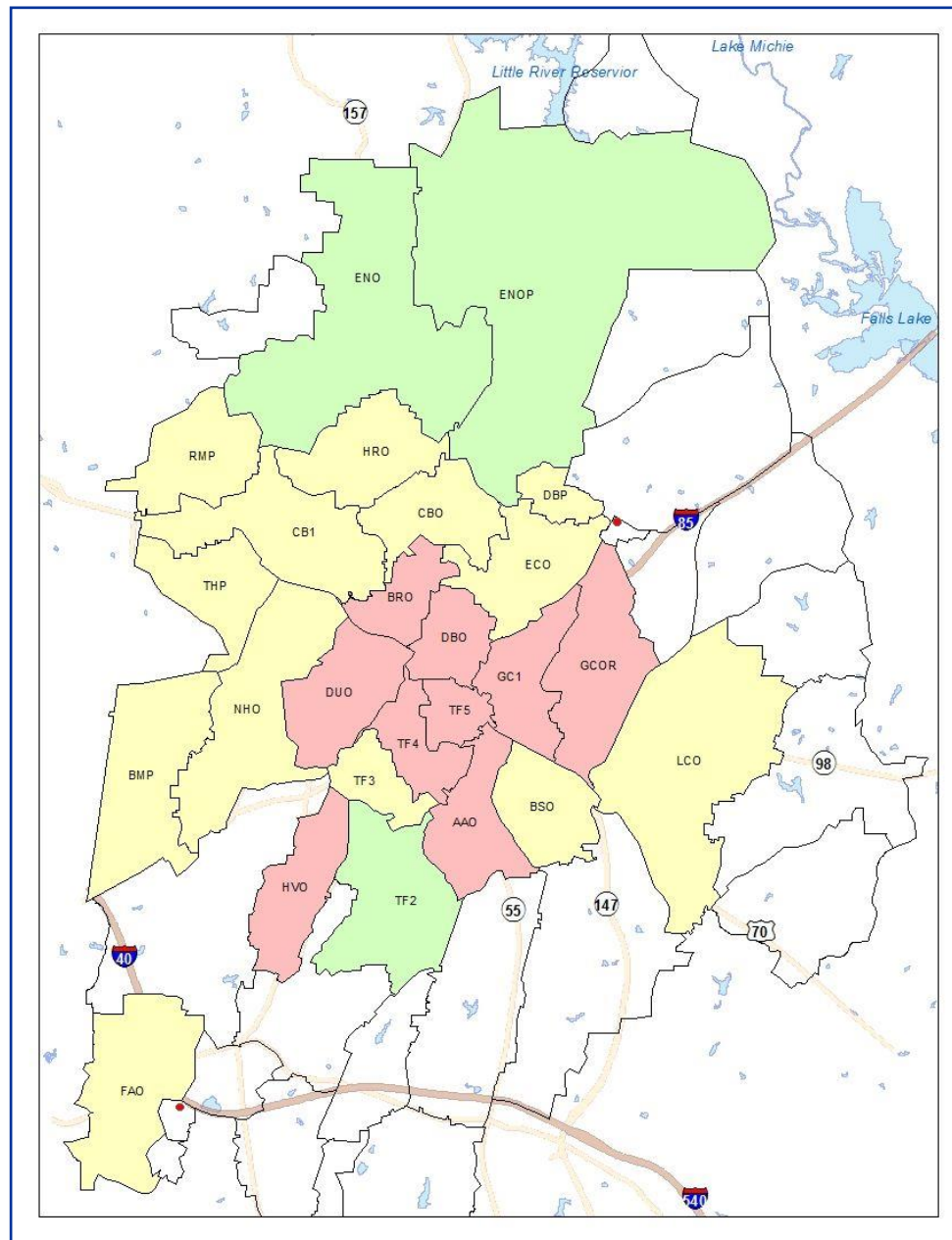
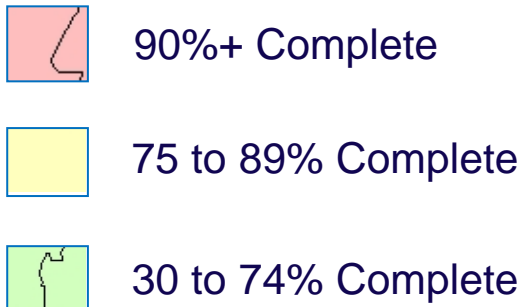
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Sewer Collection System



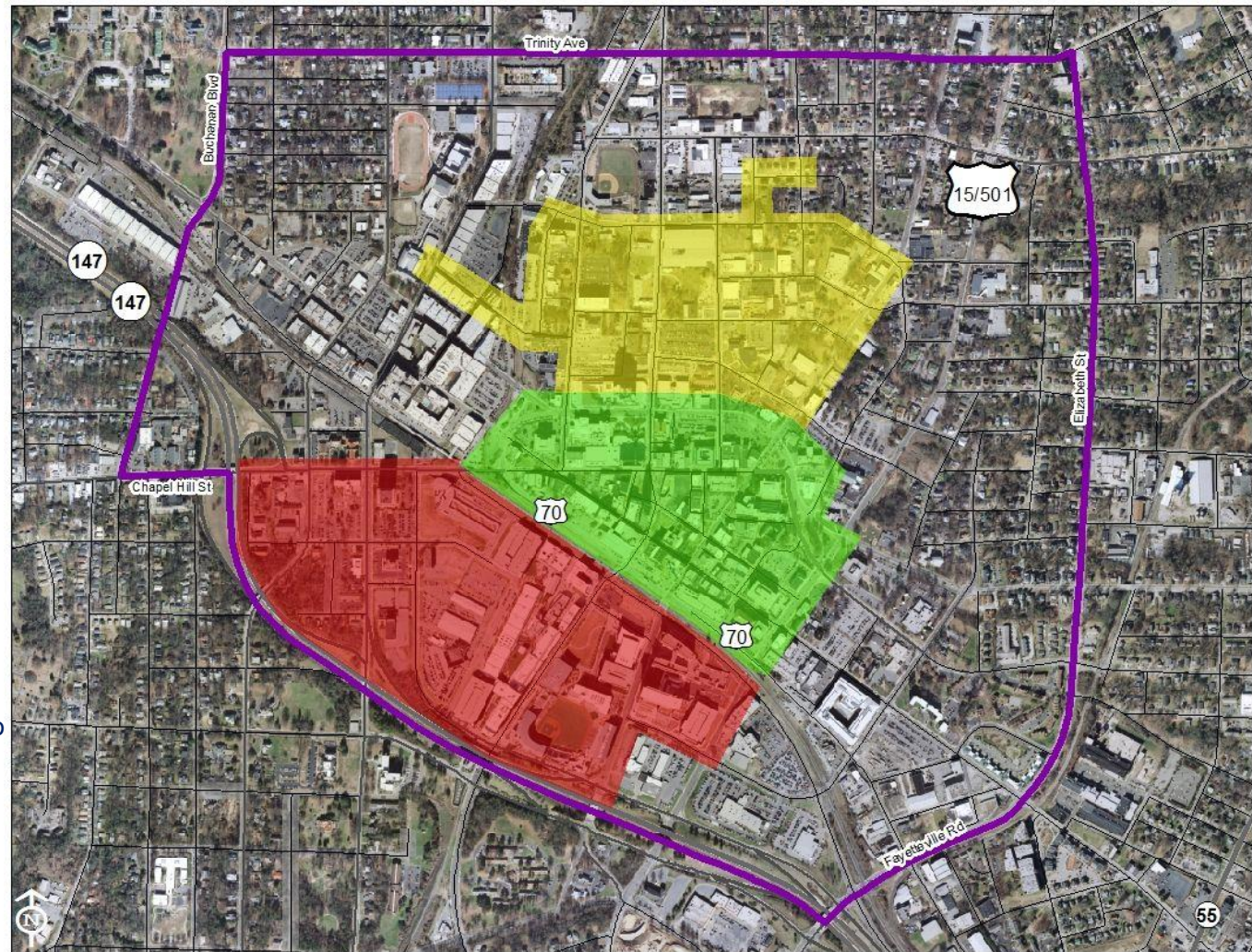
Pipeline Rehabilitation



Water Distribution System



Large Water Main Replacement Projects



-  Downtown Loop
\$8.5 million
-  Central Park
\$13 million
-  American Tobacco
\$15 million

Other Water Main Projects

<u>Project Name</u>	<u>Cost</u>
Southeast Pressure Zone (complete by 6/30/16)	\$ 5,000,000
Raw Water Main Condition Assessment – Phase I	\$ 2,250,000
East-West Reinforcing Main	\$ 15,000,000
Club Boulevard Water Main Replacement	\$ 300,000
ND Backfeed/Acadia St. Replacement	\$ 1,500,000
AC Water Main Replacement	\$ 2,900,000
2-inch Water Main Replacement	\$ 2,400,000
	\$ 29,350,000
*Green indicates construction phase	

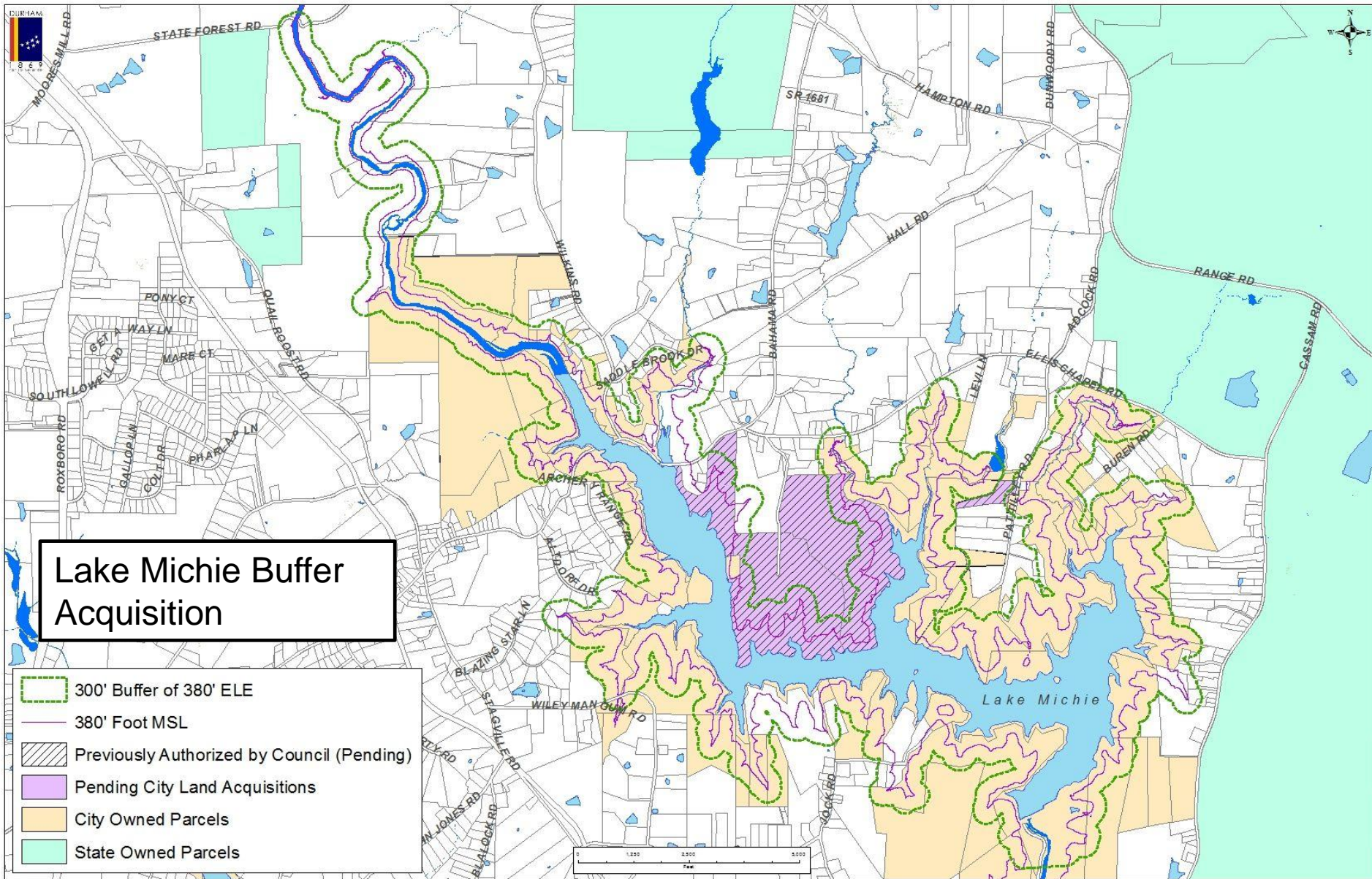
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Dams & Reservoirs







<u>Project Name</u>	<u>Cost</u>
Inspection & Evaluation Studies	\$ 610,000
Dam/Intake Rehab – Design	\$ 1,300,000
SCADA System Upgrade	\$ 300,000
Lake Michie Property Acquisition	\$ 500,000
	\$ 2,710,000

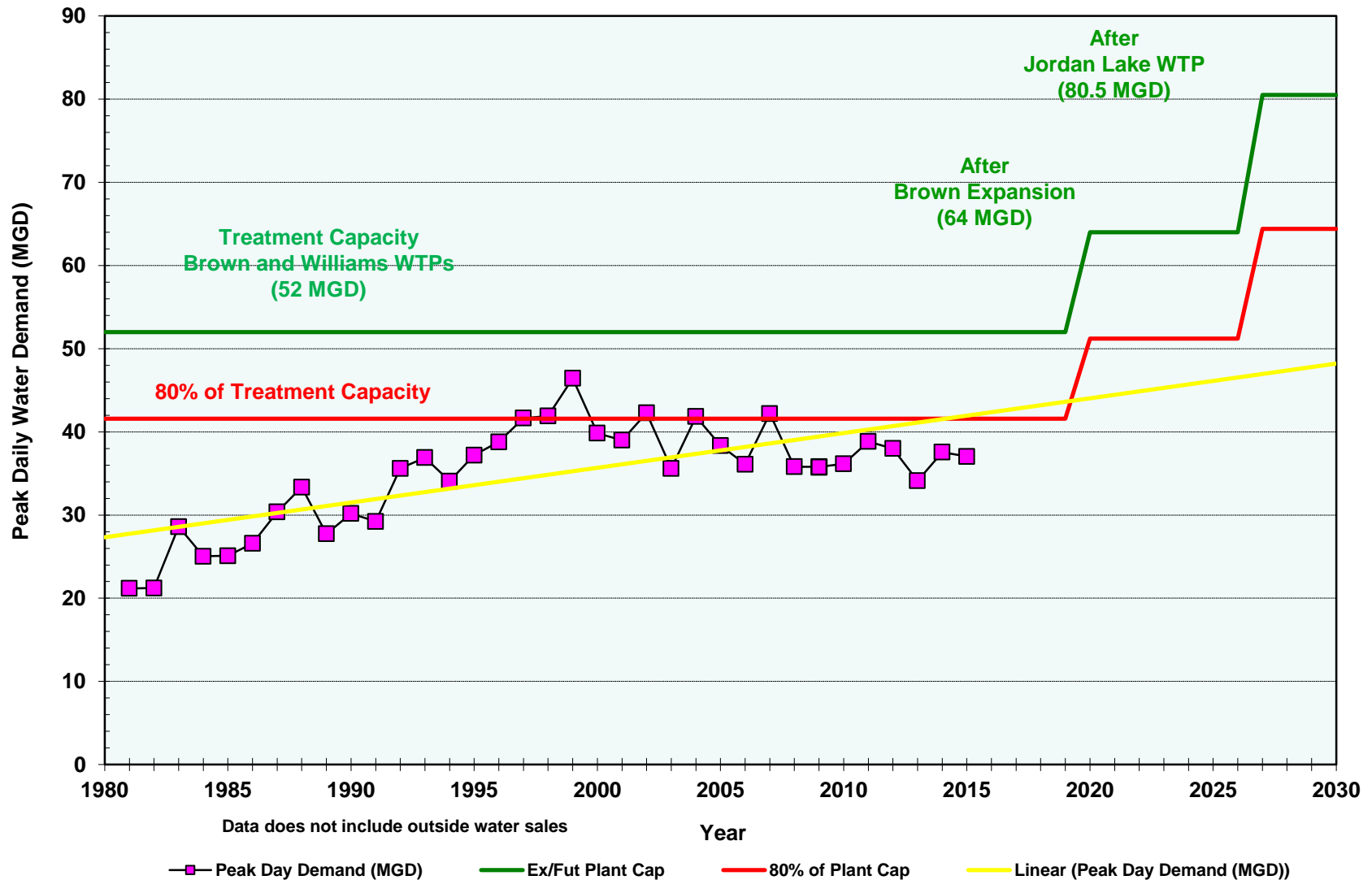


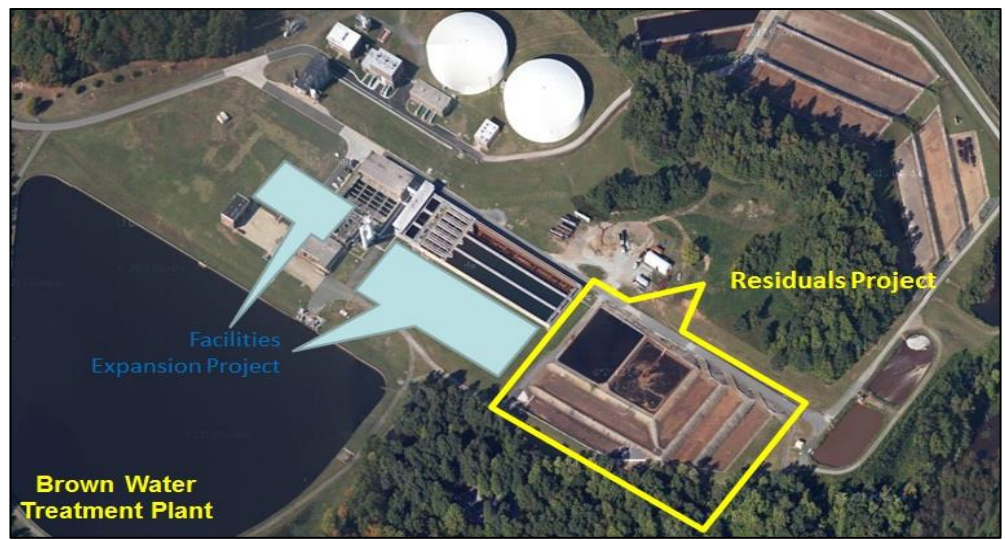
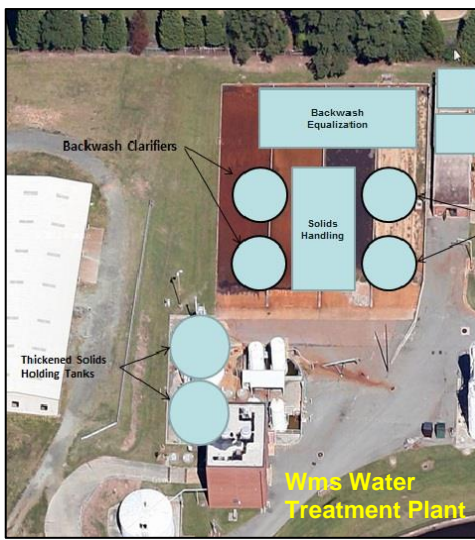


Water Treatment Plants



Peak Daily Water Supply & Demand Projection Department of Water Management - 2016

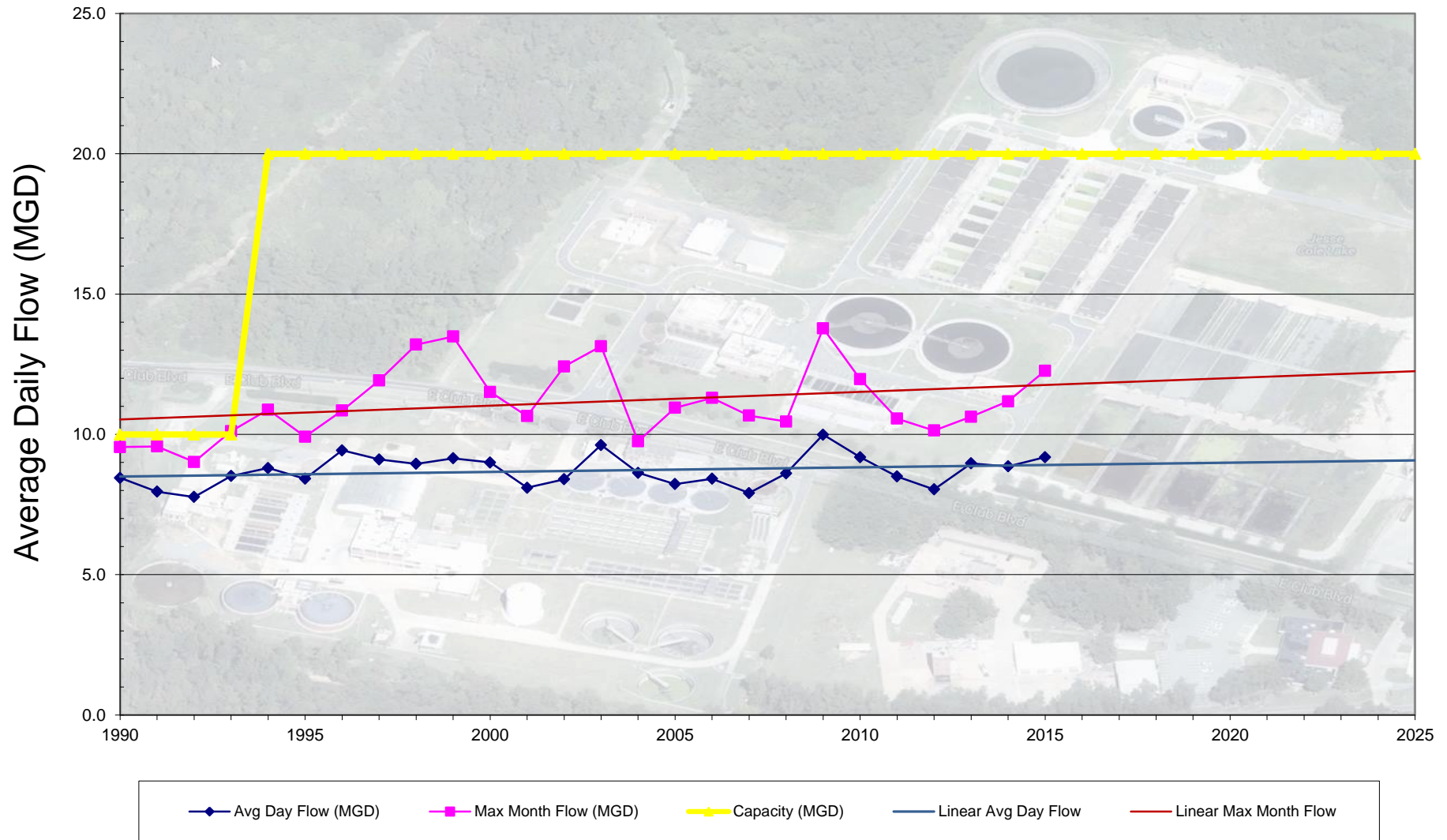




<u>Project Name</u>	<u>Cost</u>
WTP Residuals	\$ 39,000,000
Brown & Williams WTP Upgrades & Expansion	\$ 54,000,000
Williams Terminal Reservoir - Solids Removal	\$ 2,500,000
Williams WTP Generator Replacement	\$ 2,100,000
Teer Quarry	\$ 15,000,000
Jordan Lake Preliminary Phases	\$ 3,000,000
	\$ 115,600,000
*Green indicates construction phase	



NDWRF Flow Rates and Capacity Projection Department of Water Management - 2016



SDWRF Flow Rates and Capacity Projection Department of Water Management - 2016





<u>Project Name</u>	<u>Cost</u>
Carbon Feed/Nutrient Improvements (to be complete by 6/30/16)	\$ 14,500,000
ND Generators (to be complete by 6/30/16)	\$ 3,775,000
ND Roof Replacements	\$ 600,000
SD Roof Replacements	\$ 300,000
Decommissioned WWTP Demolition	\$ 400,000
WRF Improvements – Phase I	\$ <u>60,000,000</u>
	\$ 79,575,000
*Green indicates construction phase	



Overall CIP Strategy

- Continue to fund rehabilitation programs for dams, treatment facilities, sewer collection and water distribution systems
- Continue Jordan Lake initiatives
 - Planning, environmental and regulatory
 - Delay need for large capital investment
- Implement necessary improvements to meet regulatory requirements, compliance with Falls and Jordan Lake Rule vital
- Continue to fund utility efficiencies



Typical Timeframes For Projects

- Lake Development/New Plants – 10 Years
- Plant Expansion/Renovation – 4 Years
- Major Pipelines – 4 Years
- Rehabilitation Projects – 2 years



Capital Improvement Program

- Anticipate significant spending as more projects move out of the design phase and into construction phase
 - FY17 - \$ 144.9 M
 - FY18 - \$ 175.9 M
 - FY19 - \$ 109.4 M
- Major construction projects will be occurring at all facilities

Proposed Capital Funding

(in \$Million)

	FY 17	FY 18	FY 19	FY 20	FY 21	Total
Water Projects	\$42.3	\$39.4	\$28.0	\$112.3	\$20.1	\$242.1
Sewer Projects	\$101.2	\$72.7	\$29.1	\$29.8	\$45.5	\$278.2
Required CIP Funding	\$143.5	\$112.0	\$57.2	\$142.1	\$65.6	\$520.3



CIP – Water Projects

Project	FY 2016-17 millions
Water Distribution System Rehabilitation	\$7.70
Water Facilities Rehabilitation	\$4.10
Lake Michie, Little River Rehabilitation	\$2.65
Future Supply/Source Water Protection	\$0.50
Downtown East-West Reinforcing Main	\$1.50
Water Management Facility Expansion	\$24.85
Water Extensions & Improvements (DPW)	\$1.00
Total Water	\$42.30



CIP – Wastewater Projects

Project	FY 2016-17 millions
Sewer Collection System Rehabilitation	\$7.90
Wastewater Processes Rehabilitation	\$66.50
Enhanced Nutrient Removal	\$0.90
Water Management Facility Expansion	\$24.85
Sewer Extensions & Improvements (DPW)	\$1.00
Total Wastewater	\$101.15



FY 2017 Water & Sewer Rates



Rate Setting Objectives

- Sustainability
 - Address increasing operating costs
 - Fund long-term capital needs
- Conservation
 - Continue tiered rate approach to promote conservation
 - Cost-Based
 - Recognize impacts of year-round irrigation schedule
- Affordability
 - Fairness and Equity



Multi-Year Rate Strategy

- Cover increasing operating and regulatory costs via moderate sustainable rate increases
- Provide funding for CIP implementation
- Structure future borrowing to smooth impact of rate increases
- Raise rates sufficiently to cover future debt service covenants on large revenue bond issues
- Reward conservation efforts by maintaining lower rates for water efficient customers



Key Issues

- Capital Project budget is \$70.19 M in FY17
 - \$520.3 M over next five years
- Utilize “Line of Credit” borrowing for future capital needs, followed by fixed rate refinancing when reaching an efficient amount
- Align borrowing with cash spending on capital projects
- Recognize that water efficiency/restrictions and economy continue to keep demand relatively flat
- Use reserves in prudent manner
- Maintaining adequate debt service coverage to minimize interest expense

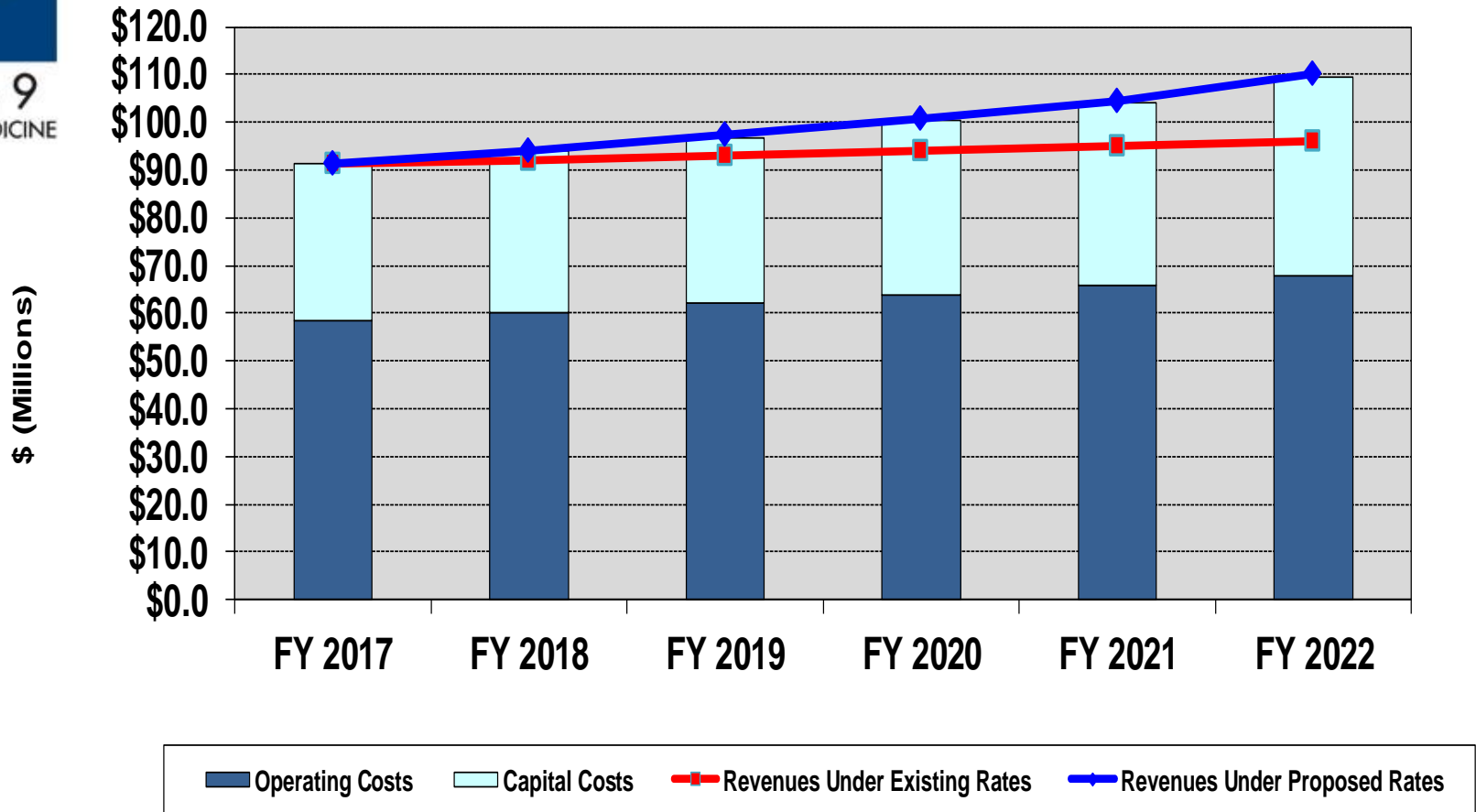


Revenue Bond/Debt Strategy

- Spend down reserves over time to:
 - minimize revenue bond requirements
 - maintain 180 days operating costs reserve - about \$34 M
- Interest-only “Line of Credit” borrowing to smooth out rate increases
- Fixed rate refinancing on periodic basis
- Use cash flow model instead of appropriation based
- Managing debt to the benefit of rate payers, not to maintain high bond ratings
- Strategy will still ensure reasonable interest rates



Projection of Water & Sewer Revenue Requirements





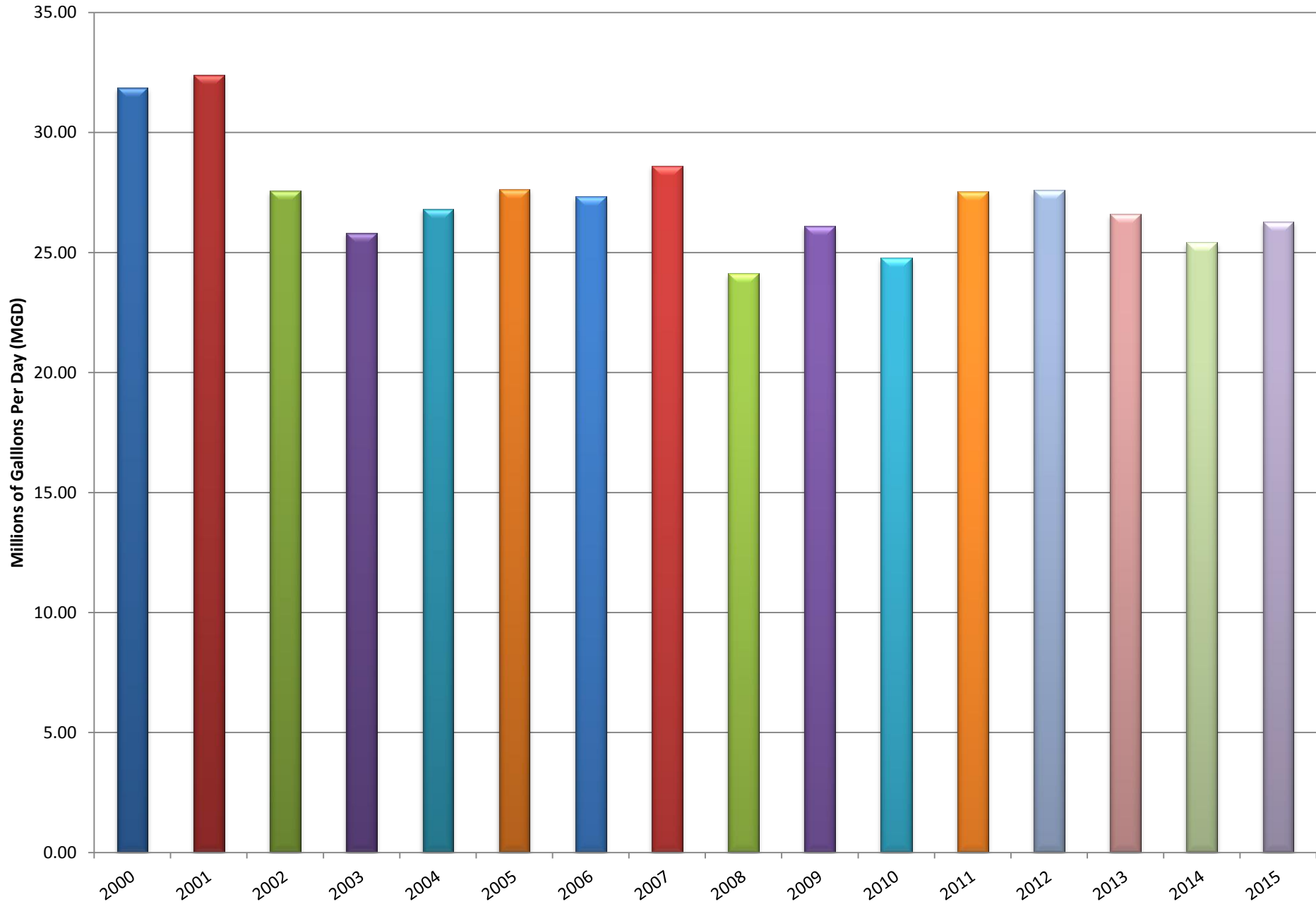
Water Usage/Consumption



Percent of all Consumption (SFR, ICI, IO) by Tier – 2014 vs. 2015

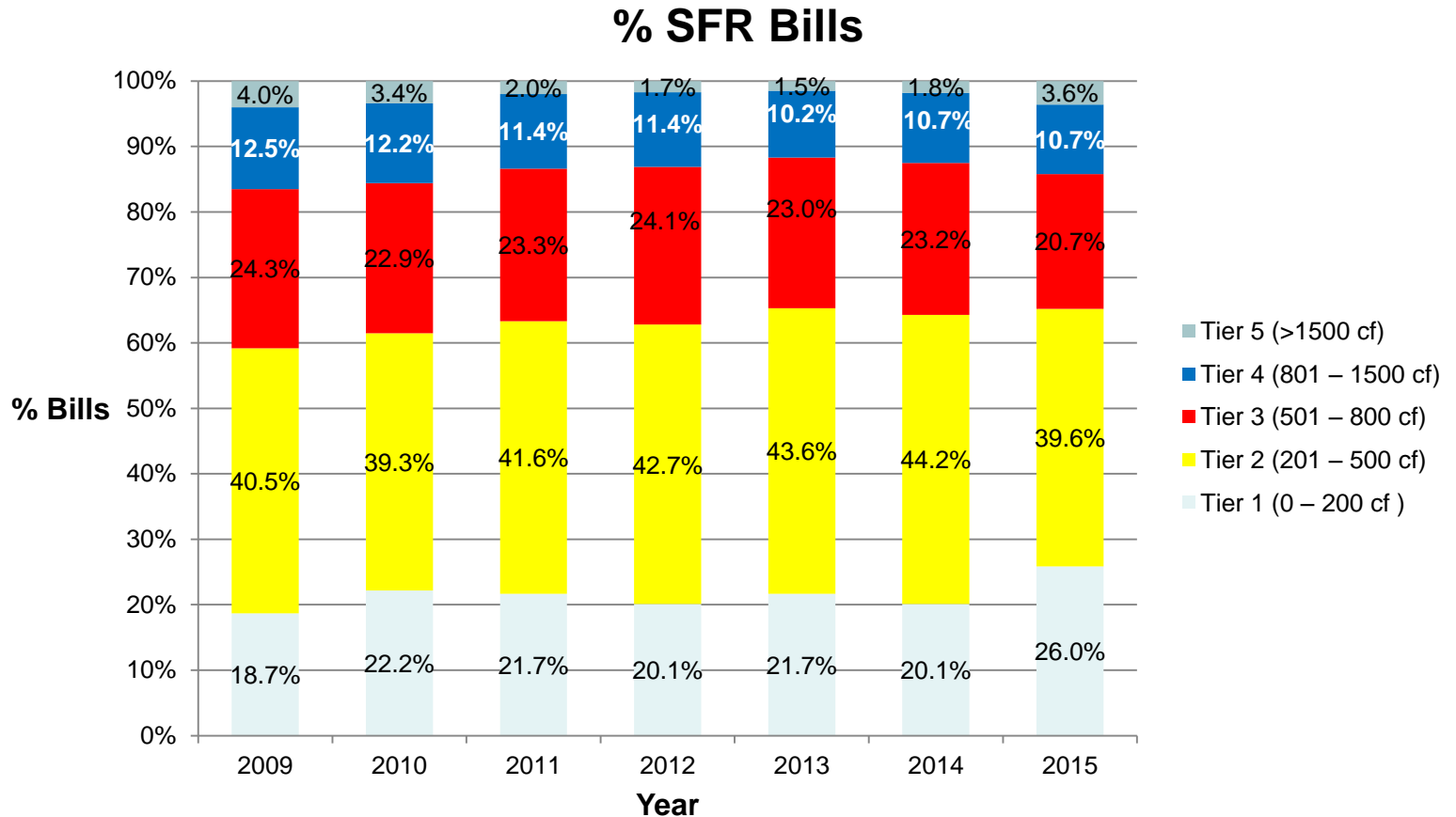
Tier	% of Consumption	
	2014	2015
Tier 1 (0 – 200 cf)	15.4%	15.0%
Tier 2 (201 – 500 cf)	14.6%	14.3%
Tier 3 (501 – 800 cf)	62.5%	62.1%
Tier 4 (801 – 1500 cf)	2.9%	3.1%
Tier 5 (>1500 cf)	4.6%	5.5%

Average Daily Finished Water Produced 2000 - 2015

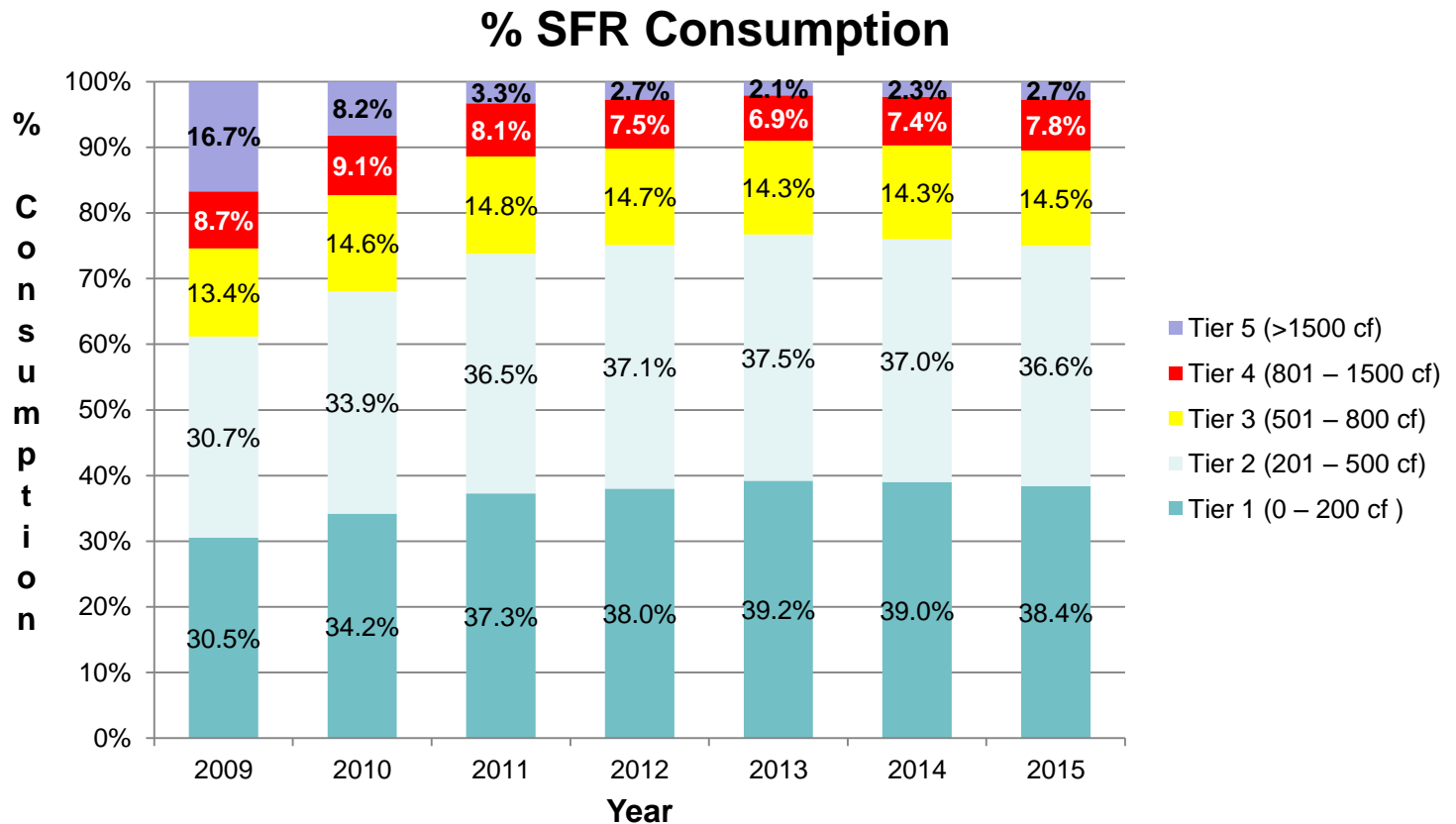




Trend - Percent of SFR Bills by Tiers



Trend - Percent of SFR Consumption by Tiers

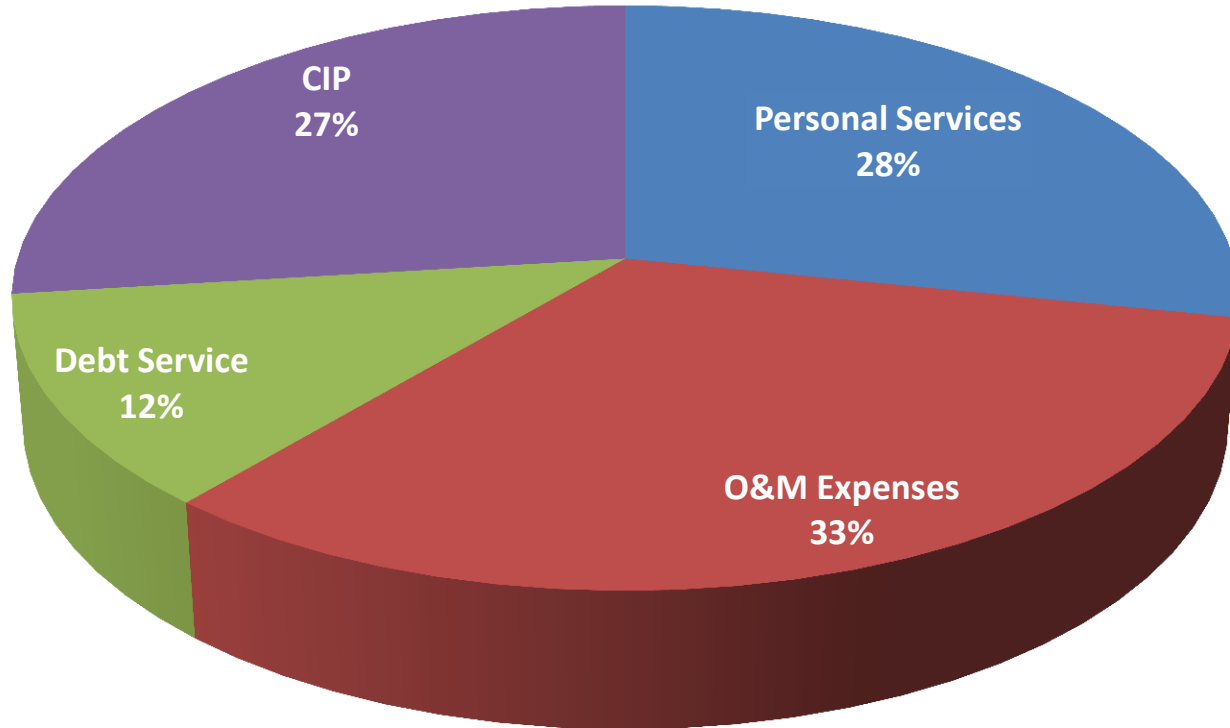




Revenues and Proposed Rates



Major FY2017 Budget Components





FY17 Water & Sewer Rates - Proposed

- Modest increase water and sewer service and consumption charges (all tiers)
- Continue penny per tier increase for watershed protection
- Based on usage, customers will see different percentage increases in actual bills
- Will impact residential customers with higher rates as usage moves into higher tiers:
 - Targets elective water uses
 - Minimizes impact to water efficient customers
- Continue to bill Commercial, Multi-Family Residential, Industrial and Institutional customers at Tier 3 rates
- Outside double rates continue
- Differential sewer charges continue for customers served by County wastewater plant



Proposed FY 2017 SFR Water Rates

	FY 16 Rates	FY 17 Rates
<u>Monthly Water Rates</u>		
Service Charge	\$ 6.72	\$ 6.92
Volume Charge - Tiered Rates (per 100 cubic foot - ccf)		
Tier 1 (0 - 2 ccf)	\$ 1.81	\$ 1.88
Tier 2 (>2 - 5 ccf)	\$ 2.73	\$ 2.83
Tier 3 (>5 - 8 ccf)	\$ 2.99	\$ 3.10
Tier 4 (>8 - 15 ccf)	\$ 3.90	\$ 4.06
Tier 5 (>15 ccf)	\$ 5.85	\$ 6.07
<u>Monthly Sewer Rates</u>		
Service Charge	\$ 7.49	\$ 7.69
Volume Charge (per ccf)	\$ 3.99	\$ 4.07



FY17 – Proposed 2.7% Rate Increase

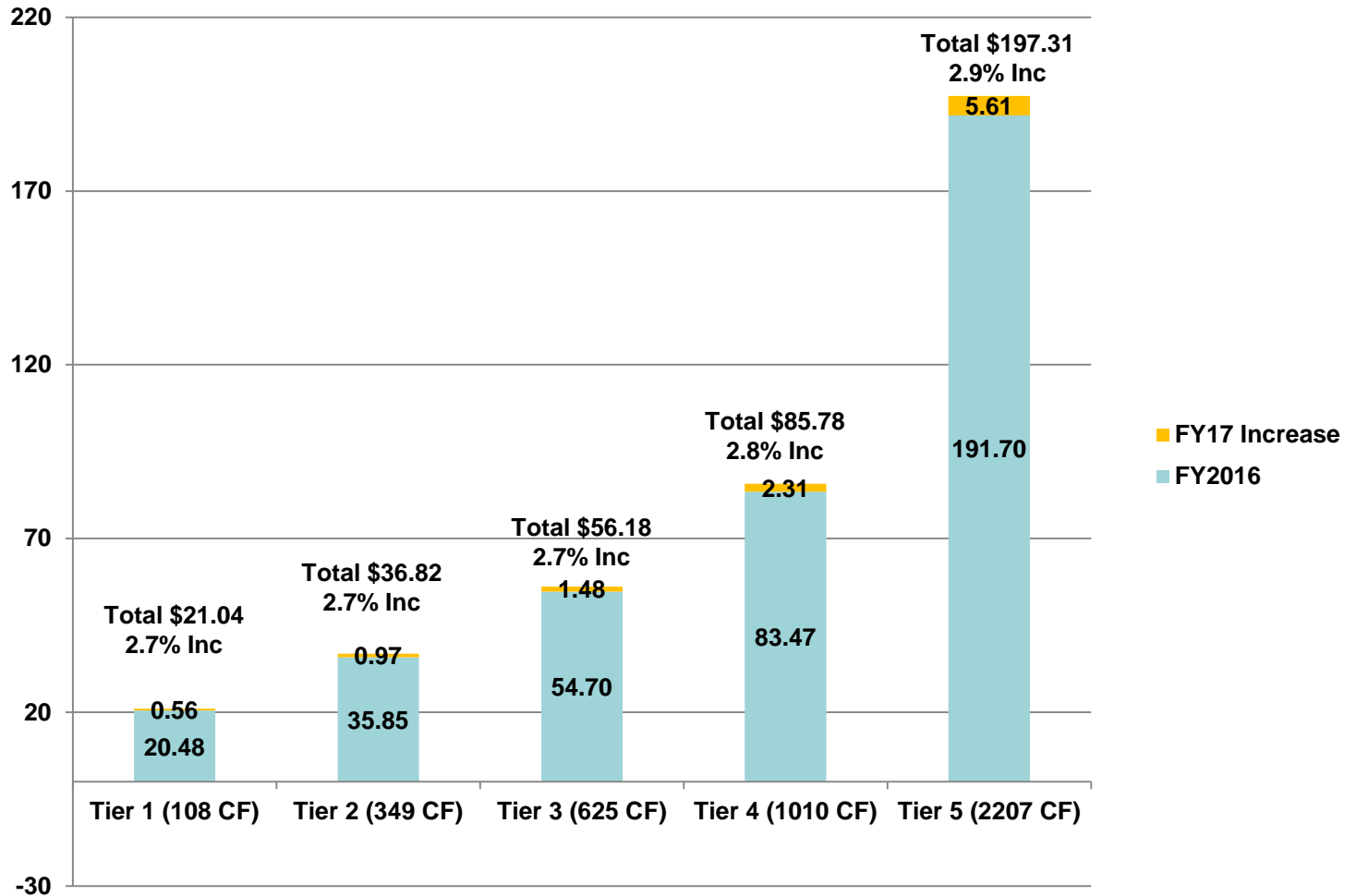
- Cover:
 - Operating Budget
 - Pay for Performance
 - Pay-Go CIP Funding
 - Debt
 - Fleet Replacement Fund
- Maintain proper debt covenants
- Maintain operating reserves

Comparison of Monthly Average Residential Inside Water & Sewer Bill FY16 vs. FY17

	Min % Change in Tier	Avg. Customer % Change in Tier	Max % Change in Tier
Tier 1 (0-200 cf)	2.81%	2.74%	2.71%
Cost	\$0.40	\$0.56	\$0.70
Volume used (cf)	0	108	200
Tier 2 (201-500 cf)	2.71%	2.70%	2.70%
Cost	\$0.70	\$0.97	\$1.24
Volume used (cf)	201	349	500
Tier 3 (501-800 cf)	2.70%	2.70%	2.71%
Cost	\$1.24	\$1.48	\$1.81
Volume used (cf)	501	625	800
Tier 4 (801-1500 cf)	2.71%	2.77%	2.86%
Cost	\$1.81	\$2.31	\$3.49
Volume used (cf)	801	1010	1500
Tier 5 (>1500 cf)	2.86%	2.93%	N/A
Cost	\$3.49	\$5.61	∞
Volume used (cf)	1501	2207	∞

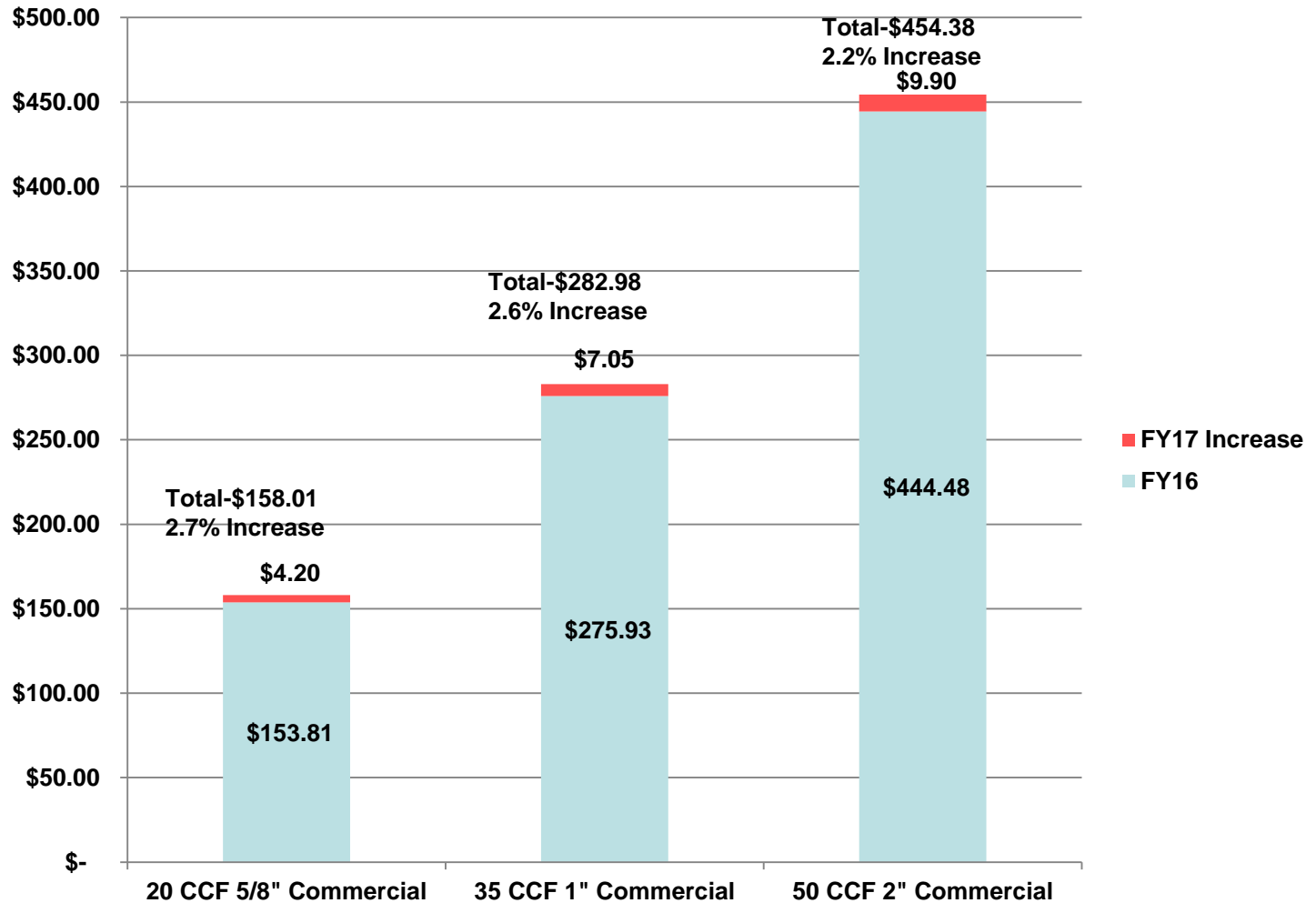


Comparison of Monthly Average Residential Inside Water & Sewer Bill FY16 vs. FY17





Comparison in Monthly Commercial Inside Bill FY16 vs. FY17





Differential Sewer Rate Structure for Customers Served by County WWTP

- New service charge and sewer usage rates for customers served by County wastewater plant
- Service charges differ depending upon whether the sewer lines are owned and maintained by the County or by the City
- City reimburses the County for sewer usage at the County's established rate
- Usage fees reflect Durham County costs



Proposed FY17 Sewer Rates

Triangle Basin Customers (County WWTP)

Located in/out of City Limits	Owner of Sewer Lines	Monthly 5/8" Service Fee	Usage Charge/CCF***
Inside	City	\$ 7.69	\$4.15*
Outside	City	\$15.38	\$8.30**
Inside	County	\$ 4.00	\$4.15*
Outside	County	\$ 4.00	\$4.15*

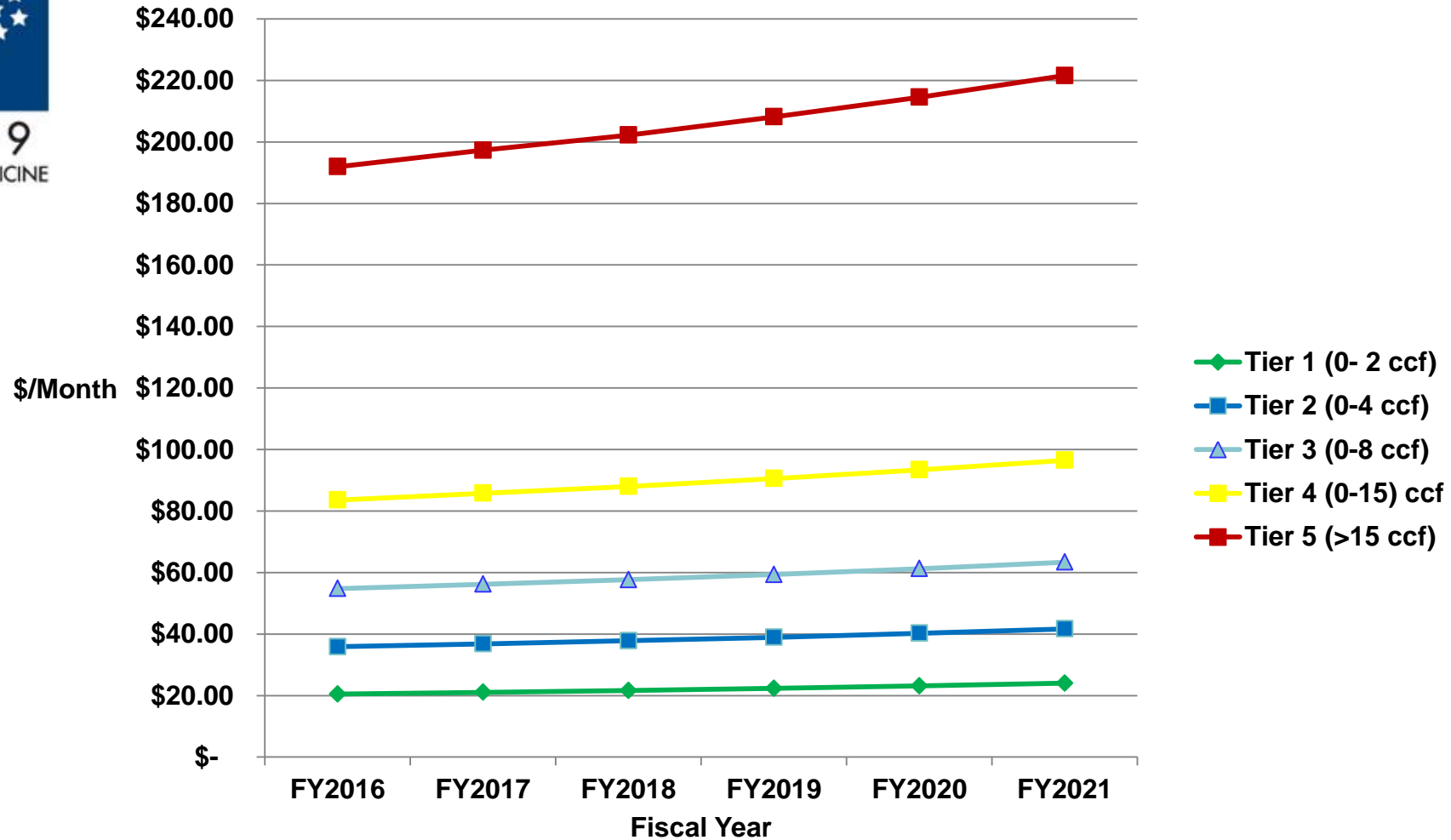
* Approved County rate

** Double County rates

*** Proposed rates to be approved by County in June 2016



Projected Average SFR Monthly Cost per Tier



Projected Average Rate Increases FY 17

	FY 17	FY 18	FY 19	FY 20	FY 21
Previous year Proposed Rate Increase	3.1 %	3.3 %	3.4 %	3.4%	3.9%
<u>Proposed Rate Increase</u>	<u>2.7%</u>	<u>2.7%</u>	<u>3.0%</u>	<u>3.2%</u>	<u>3.4%</u>

- FY 17 rates include overall 3.2% increase in water and 2.2% sewer
- % increase will have to rise; associated with CIP spending
- Jordan Lake and its potential impacts



Long Term Effect of Strategic But Moderate Increases

- Cover increasing operating and maintenance costs
- Fund increasing rehabilitation and renewal costs
- Provide source for pay-as-you-go funding for capital projects
- Limit the need for large revenue bond spending
- Keep rates lower over extended periods of time
- Strengthen the financial position of the utility and the City



Click to exit tool



NC Water and Wastewater Rates Dashboard

Rates as of January 2016

Last updated: March 30, 2016



Durham

Rates Comparison

Financial Benchmarks

Characteristics

Links

Edit Data or Add Utility

Select residential bill and monthly consumption amount

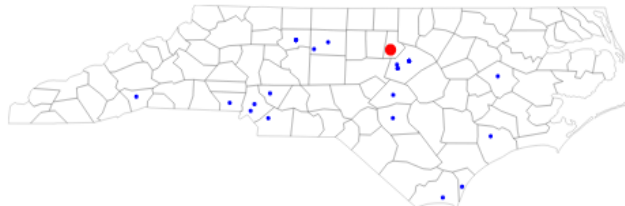
☐ Water Bill ☐ Sewer Bill ☒ Water + Sewer Bill

4,000 gallons
535 cubic feet

Monthly Water & Sewer Bill: \$48.45

Select comparison group: Similar Number Of Accounts

Comparing to utilities also with more than 25,000 accounts

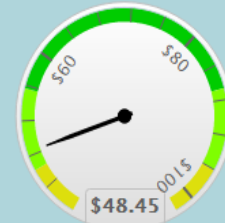


26 rate structures compared

Effects of raising rates by: 0%

Bill Comparison

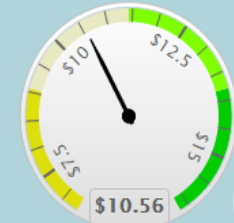
Water & Sewer Bill at
4,000 gallons
Median: \$60.52



Min \$36.66 Max \$105.01

Conservation Signal

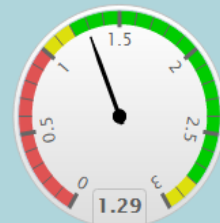
Water & Sewer Price/1,000
Gallons, after 10,000 Gallons
Median: \$10.56



Min \$1.43 Max \$16.92

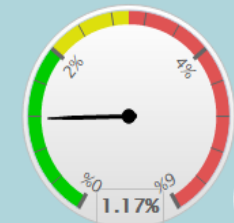
Cost Recovery

Operating
Ratio Incl. Deprec. 2015



Affordability

Water & Sewer Bills as % MHI





Click to exit tool



NC Water and Wastewater Rates Dashboard

Rates as of January 2016

Last updated: March 30, 2016



Durham

Rates Comparison

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Links

Edit Data or Add Utility

Select residential bill and monthly consumption amount

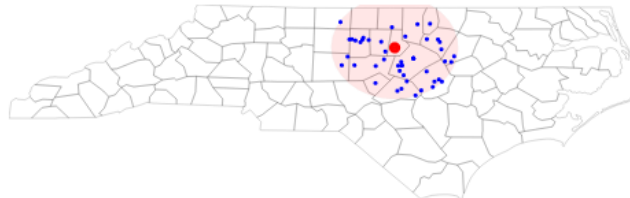
☐ Water Bill ☐ Sewer Bill ☒ Water + Sewer Bill

4,000 gallons
535 cubic feet

Monthly Water & Sewer Bill: \$48.45

Select comparison group: Within 50 miles distance

Comparing to all utilities within 50 miles of your utility

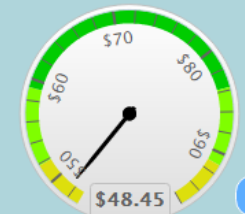


48 rate structures compared

Effects of raising rates by: 0%

Bill Comparison

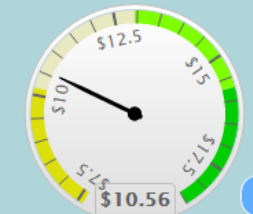
Water & Sewer Bill at
4,000 gallons
Median: \$61.10



Min \$33.96 Max \$111.00

Conservation Signal

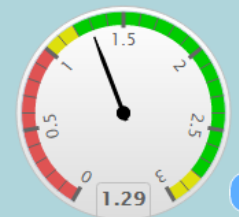
Water & Sewer Price/1,000
Gallons, after 10,000 Gallons
Median: \$11.34



Min \$1.43 Max \$25.00

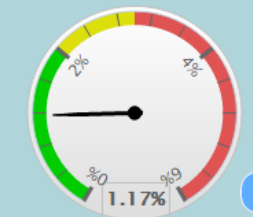
Cost Recovery

Operating
Ratio Incl. Deprec. 2015



Affordability

Water & Sewer Bills as % MHI





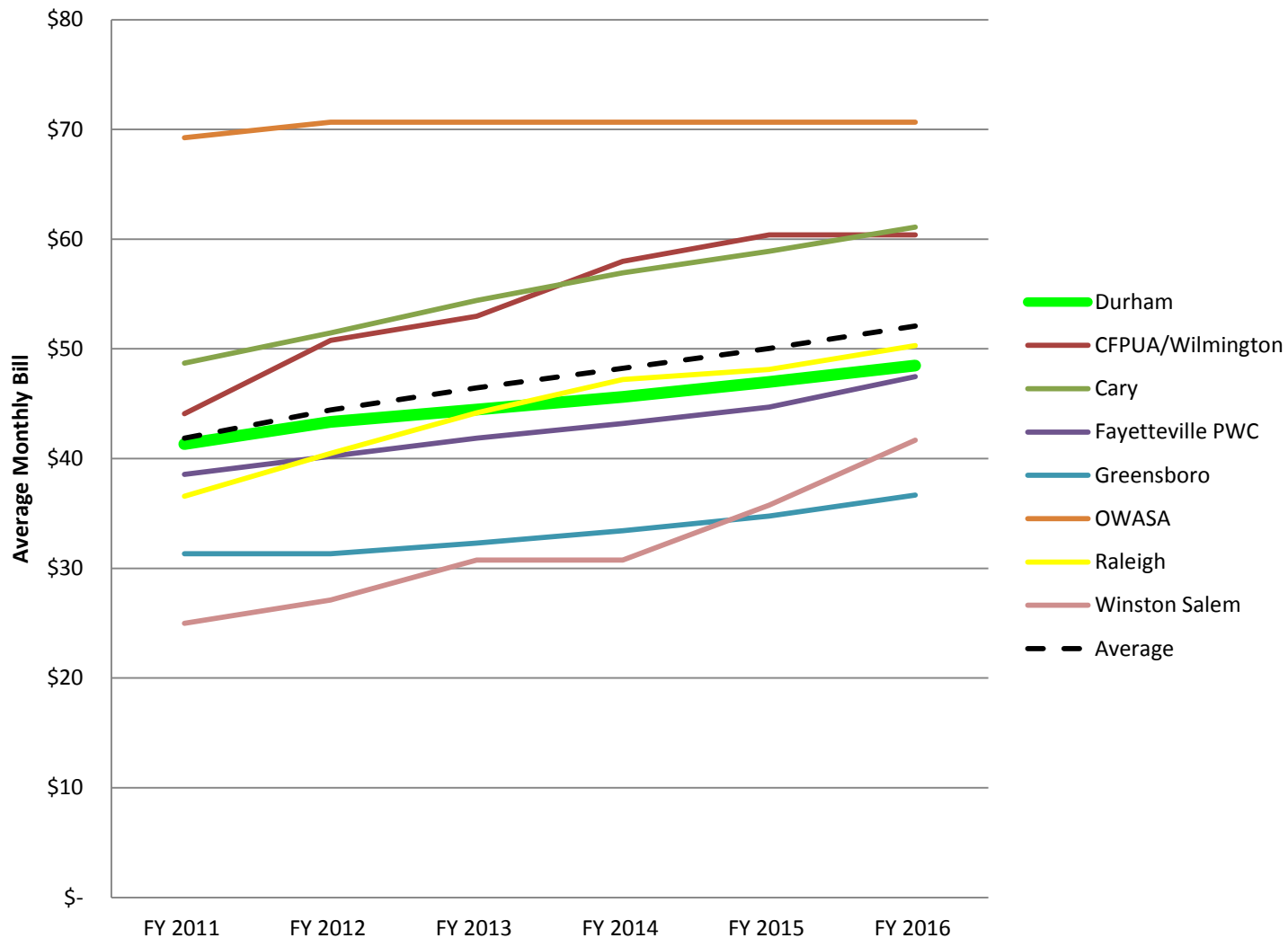
Monthly Water & Sewer Bill Comparison*

		FY 2016 Average Bill	FY 2017 projected Average Bill	Proposed FY 2017 increase
Durham		\$ 48.41	\$ 49.72	2.7%
Winston Salem		\$ 42.15	\$?
Greensboro		\$ 35.01	\$ 36.59	4.5%
Raleigh		\$ 50.27	\$ 52.28	Approx. 4%
Charlotte		\$ 44.20	\$?
Fayetteville PWC		\$ 47.46	\$ 50.24	5.9% for avg. customer
CFPUA/Wilmington		\$ 60.38	\$ 60.38	0%
Cary		\$ 61.10	\$ 63.54	4%
OWASA		\$ 70.66	\$ 70.66	0%
Average		\$ 50.89	\$ 54.77	Excluding WS & CMUD

* 4000 gallons (5.35 CCF) monthly usage (water & sewer service) – Tier 3.



Monthly Cost for 4000 gallons Water and Sewer - comparison





Capital Facilities Fee (CFF)

- Charged for new meter installations
- CFF pays only for new expansion projects
- Modest increases proposed for FY 2017 to reflect 4.7% increase in costs
 - 5/8" - 2" size meters only



Questions